

- (iv) Manual safety trip operation; or
(v) Loss of flame at all burners.

(2) The low-low water level safety trip control must account for normal vessel motions and operating transients.

[CGD 81–030, 53 FR 17838, May 18, 1988, as amended by USCG–2002–13058, 67 FR 61278, Sept. 30, 2002]

§ 62.35–35 Starting systems for internal-combustion engines.

The starting systems for propulsion engines and for prime movers of ships' service generators required to start automatically must meet sections 4–6–5/9.5 and 4–8–2/11.11 of the ABS Steel Vessel Rules (incorporated by reference; see 46 CFR 62.05–1).

[USCG–2003–16630, 73 FR 65189, Oct. 31, 2008]

§ 62.35–40 Fuel systems.

(a) *Level alarms.* Where high or low fuel tank level alarms are required, they must be located to allow the operator adequate time to prevent an unsafe condition.

(b) *Coal fuels.* (1) Controls and instrumentation for coal systems require spe-

cial consideration by the Commandant CG–521.

(2) Interlocks must be provided to ensure a safe transfer of machinery operation from one fuel to another.

(c) *Automatic fuel heating.* Automatic fuel heating must meet section 4–9–3/15.1 of the ABS Steel Vessel Rules (incorporated by reference; see 46 CFR 62.05–1).

(d) *Overflow prevention.* Fuel oil day tanks, settlers, and similar fuel oil service tanks that are filled automatically or by remote control must be provided with a high level alarm that annunciates in the machinery spaces and either an automatic safety trip control or an overflow arrangement.

[CGD 81–030, 53 FR 17838, May 18, 1988, as amended by CGD 95–072, 60 FR 50463, Sept. 29, 1995; CGD 96–041, 61 FR 50728, Sept. 27, 1996; USCG–2003–16630, 73 FR 65190, Oct. 31, 2008; USCG–2009–0702, 74 FR 49229, Sept. 25, 2009]

§ 62.35–50 Tabulated monitoring and safety control requirements for specific systems.

The minimum instrumentation, alarms, and safety controls required for specific types of systems are listed in Table 62.35–50.

TABLE 62.35–50—MINIMUM SYSTEM MONITORING AND SAFETY CONTROL REQUIREMENTS FOR SPECIFIC SYSTEMS (NOTE 1)

System	Service	Instrumentation	Alarm	Safety control	Notes
Main (Propulsion) boiler	(1)	(1)	(1) .....	.....	(2)
	Supply casing and uptakes .....	.....	Fire .....	.....
	Burner flame	Status	Failure	Burner auto trip	(3)
	Burner seating .....	.....	Failure .....	.....ditto	(3)
	Trial for ignition	Status	Failure .....	.....ditto	
	Control power	Available (pressure)	Failure (low) .....	.....ditto	(3)
	.....	.....	.....	Manual trip	(3)
	Burner valve	Open/closed .....	.....	.....
	Low fire interlock	Status .....	.....	.....
Main (Propulsion steam) turbine.	Program control interlock	Status .....	.....	.....
	(2)	(2)	(2) .....	.....	(4, 5)
Main propulsion, diesel	(1)	(1)	(1)	Manual trip	(4, 5)
	.....	.....	.....	Manual trip	
Main propulsion, remote control.	.....	.....	Failure .....	.....ditto	
	Auto safety trip override .....	.....	Activated .....	.....
	Starting power	Pressure (voltage)	Low	Limit	(2)
	Location in control	Status	Override .....	.....	(6)
	Shaft speed/direction/pitch	(3)	(3)	(3)	
	Clutch fluid	Pressure	Low .....	.....
Main propulsion, electric	(4)	(4)	(4)	(4)	(7)
Main propulsion, shafting.	Stern tube oil tank level .....	.....	Low .....	.....
	Line shaft bearing	Temperature	High .....	.....